

Abstract Submitted
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Intermittent Jamming in Quasi-2D Microfunnels CARLOS ORTIZ, KAREN DANIELS, North Carolina State University, ROBERT RIEHN¹ — Both athermal granular jamming and thermal glass transitions have recently received extensive attention. We experimentally investigate the jamming transition in a quasi-2D system of nearly hard-sphere, micron-sized PMMA-PHSA particle suspension in a density and index-matched medium flowing through a microfunnel. We observe a packing fraction driven transition from a gas-like to a liquid-like to a solid-like phase. At sufficiently high packing fractions we observe intermittent jamming under constant pressure. Further increase in the packing fraction forms a stable solid-like jammed phase which is disordered on long-ranges, and susceptible to re-melting by reverse flow, agitation, and diffusion. By displaying properties of both athermal granular jamming and thermal glass transitions, our experiment provides a useful testing ground for understanding the jamming transition as a unifying framework.

¹North Carolina State University

Carlos Ortiz
North Carolina State University

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